

APPENDIX F

SENSITIVE PLANT SPECIES OCCURRING ON STATE SCHOOL TRUST LANDS

TABLE
RARE VASCULAR PLANT SPECIES OCCURRING ON STATE SCHOOL TRUST LAND

NAME	Vegetation Province	HABITAT
<i>Allium columbiana</i> Columbia onion	Northern Rocky Mountains	Moist swales and along temporary ponds and streams in the valleys. 2800 - 3000 feet (853 - 914 meters)
<i>Amerorchis rotundifolia</i> round-leaved orchid	Northern Rocky Mountains	Spruce forest around seeps or along streams, often in soil derived from limestone. 3350 - 5920 feet (1021 - 1804 meters)
<i>Aquilegia formosa</i> sitka columbine	Middle and Yellowstone Plateau	Moist soil of open coniferous, cottonwood, or aspen forests in the montane to subalpine zone. 6700 - 8400 feet (2042 - 2560 meters)
<i>Arabis fecunda</i> sapphire rockcress	Northern Rocky Mountains	Open, rocky, often eroding slopes developed from calcareous parent material in the foothills and montane zones, restricted to the contact zone with igneous rock. 4200 - 7960 feet (1280 - 2426 meters)
<i>Astragalus barrii</i> Barr's milkvetch	Great Plains	Gullied knolls, buttes, and barren hilltops, often on calcareous soft shale and siltstone. 2940 - 4000 feet (896 - 1219 meters)
<i>Astragalus ceramicus var. apus</i> painted milkvetch	Middle Rocky Mountains	Sparsely vegetated sand dunes in the valley zone. 6680 - 6700 feet (2036 - 2042 meters)
<i>Astragalus grayi</i> Gray's milkvetch	Temperate Desert	Open soil in sagebrush steppe in the valley zone. 3700 - 5500 feet (1128 - 1676 meters)
<i>Astragalus scaphoides</i> Bitterroot milkvetch	Middle Rocky Mountains	Silty, often stony soil in sagebrush grassland in the valley and foothill zones. 5300 - 7160 feet (1615 - 2182 meters)
<i>Astragalus terminalis</i> railhead milkvetch	Middle Rocky Mountains	Sagebrush steppe and sparsely-vegetated grasslands in the valley, foothills, montane and alpine zones. 5000 - 9560 feet (1524 - 2914 meters)
<i>Athysanus pusillus</i> sandweed	Middle Rocky Mountains	Vernally moist, shallow soil of steep slopes and cliffs in the lower montane zone. 4000 - 4800 feet (1219 - 1463 meters)
<i>Bidens beckii</i> Beck water-marigold	Northern Rocky Mountains	Still or slow-moving water of lakes, rivers, and sloughs in the valleys, 0.1-3 m deep. 3000 - 4000 feet (914 - 1219 meters)
<i>Botrychium ascendens</i> upwardlobed moonwort	Northern Rocky Mountains	Stream floodplain habitats dominated by deciduous shrubs with lush cover by forbs, graminoids, and mosses in nw. MT. Reported from mesic meadows in OR and western red cedar habitats in ID and WA; possibly also occurring in these habitats in Montana. 3330 - 4800 feet (1015 - 1463 meters)
<i>Botrychium crenulatum</i> wavy-leaved moonwort	Northern and Middle Rocky Mountains	Stream bottoms, around seeps, on the edges of marshes, and in wet roadside swales, often on soils influenced by reprecipitated calcium. Vegetation dominated by spruce, alders, and dogwood, with high cover and diversity of forbs and graminoids. Also reported from western red cedar habitats. 2440 - 7680 feet (744 - 2341 meters)
<i>Botrychium montanum</i> mountain moonwort	Northern and Middle Rocky Mountains	Usually in deep litter of springy, mature western red cedar forests, but also in riparian thickets, mesic meadows, and grassy trail edges. 2640 - 4900 feet (805 - 1494 meters)
<i>Botrychium pendunculatum</i> stalked moonwort	Northern Rocky Mountains	Floodplain bottoms of glaciated valleys with mature western red cedar. Growing in stratified litter and alluvium layers in old stream channel bottoms. 2600 - 3660 feet (792 - 1116 meters)
<i>Carex chordorrhiza</i> creeping sedge	Northern and Middle Rocky Mountains	Wet, organic soil of SPHAGNUM fens in the montane zone. 3410 - 5280 feet (1039 - 1609 meters)
<i>Carex crawei</i> Craw's sedge	Middle Rocky Mountains and Great Plains	Gravelly or sandy, calcareous seepage zones of ponds, streams and springs in the valley to foothill zones and on the plains. 3280 - 4900 feet (1000 - 1494 meters)
<i>Carex livida</i> pale sedge	Northern, Middle Rocky Mountains and Great Plains	Wet, organic soils of fens in the foothill and montane zones. 2910 - 6030 feet (887 - 1838 meters)
<i>Carex parryana</i> spp. <i>idaho</i> Idaho sedge	Middle Rocky Mountains	Moist meadows around seeps, ponds, or streams, usually associated with calcareous parent materials in the foothills to montane zones. 4500 - 8420 feet (1372 - 2566 meters)
<i>Carex scoparia</i> pointed broom-sedge	Middle Rocky Mountains	Wet soil along rivers and sloughs in the valleys. 3070 - 4300 feet (936 - 1311 meters)

TABLE
RARE VASCULAR PLANT SPECIES OCCURRING ON STATE SCHOOL TRUST LAND

NAME	Vegetation Province	HABITAT
<i>Carex sychnocephala</i> many-headed sedge	Northern Rocky Mountain Forest and Great Plains	Moist soil of meadows along streams and ponds in the valleys and on the plains. 2150 - 5100 feet (655 - 1554 meters)
<i>Castilleja exilis</i> annual Indian paint brush	Middle and Yellowstone Plateau	Moist alkaline meadows in the valley zone. 3860 - 5320 feet (1177 - 1622 meters)
<i>Centunculus minimus</i> chaffweed	Northern, Middle Rocky Mountains and Great Plains	Vernally wet, sparsely vegetated soil around ponds and along rivers and streams in the valleys and on the plains. 3200 - 3300 feet (975 - 1006 meters)
<i>Chenopodium subglabrum</i> smooth goosefoot	Great Plains	Sparsely vegetated sand dunes and sandy terraces of major rivers on the plains. 2400 - 3450 feet (732 - 1052 meters)
<i>Chrysoplemium tetrandrum</i> Northern golden-carpet	Middle Rocky Mountains	Seeps, wet rock ledges, and stream banks in the montane zone. 4100 - 6700 feet (1250 - 2042 meters)
<i>Cleome lutea</i> yellow bee-plant	Temperate Desert	Open, often sandy soil of sagebrush steppe in the valleys. 4100 - 4600 feet (1250 - 1402 meters)
<i>Cryptantha fendleri</i> Fendler cat's-eye	Yellowstone Plateau and Great Plains	Open areas of sand dunes in the valleys and on the plains. 1970 - 6700 feet (600 - 2042 meters)
<i>Cyperus schweinitzii</i> Schweinitz flatsedge	Great Plains	Sparsely vegetated sand dunes on the plains. 2100 - 3445 feet (640 - 1050 meters)
<i>Cypripedium fasciculatum</i> clustered ladies slipper	Northern Rocky Mountains	Dry to moist forests in the montane zone. 2995 - 4700 feet (913 - 1433 meters)
<i>Cypripedium parviflorum</i> small yellow ladies-slipper	Northern, Middle Rocky Mountains, Yellowstone Plateau	Fens, damp mossy woods, seepage areas, and moist forest-meadow ecotones in the valley to lower montane zones. 2520 - 6200 feet (768 - 1890 meters)
<i>Cypripedium passerinum</i> sparrow's-egg ladies-slipper	Northern Rocky Mountains	Mossy, moist, or seepy places in coniferous forests, often on calcareous substrates. 3100 - 5700 feet (945 - 1737 meters)
<i>Dalea villosa</i> var. <i>villosa</i> silky prairie clover	Great Plains	Loose sand of sand dunes or eroded from sandstone outcrops. 1980 - 3430 feet (604 - 1045 meters)
<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i> Scribner's panic grass	Northern Rocky Mountains and Great Plains	Open ponderosa pine woodlands of valleys and plains. 3120 - 3920 feet (951 - 1195 meters)
<i>Drosera angelica</i> English sundew	Northern, Middle Rocky Mountains, Yellowstone Plateau	With SPHAGNUM moss in wet, organic soils of fens in the montane zone. 3100 - 9000 feet (945 - 2743 meters)
<i>Dryopteris cristata</i> Buckler fern	Northern and Yellowstone Plateau	Moist to wet, often organic soils at the forest margins of fens and swamps in the montane zone. 2950 - 7350 feet (899 - 2240 meters)
<i>Elatine brachysperma</i> short-seeded waterwort	Middle and Yellowstone Plateau	Shallow waters, shores and mudflats of lakes and ponds in valleys. 3000 - 6700 feet (914 - 2042 meters)
<i>Eleocharis rostellata</i> beaked spikerush	Northern and Middle Rocky Mountains	Wet, often alkaline soils, associated with warm springs or fens in the valley and foothills zones. 2700 - 6100 feet (823 - 1859 meters)
<i>Elymus flavescens</i> sand wildrye	Middle Rocky Mountains	Sparsely-vegetated sand dunes in the valleys. 6680 feet (2036 meters)
<i>Epipactis gigantea</i> giant helleborine	Northern, Middle Rocky Mountains, Yellowstone Plateau	Stream banks, lake margins, fens with springs and seeps, often near thermal waters. 2900 - 6200 feet (884 - 1890 meters)
<i>Erigeron asperugineus</i> Idaho fleabane	Middle Rocky Mountains	Open soil and scree in the alpine zone. 6000 - 10000 feet (1829 - 3048 meters)
<i>Erigeron lackschewitzii</i> Lackschewitz fleabane	Middle Rocky Mountains	Open, gravelly, calcareous soil and talus on ridgetops in the alpine and subalpine zones. 6400 - 8400 feet (1951 - 2560 meters)
<i>Eriogonum caespitosum</i> mat buckwheat	Middle Rocky Mountains	Dry, stony limestone sagebrush steppe. 6900 - 7400 feet (2103 - 2256 meters)
<i>Eriophorum gracile</i> slender cottongrass	Northern Rocky Mountains	Wet, organic soil of fens in the valley and montane zones. 3080 - 7600 feet (939 - 2316 meters)
<i>Grayia spinosa</i> spiny hopsage	Temperate Desert	Dry, alkaline soils in desert shrubland of valleys. 4200 - 5000 feet (1280 - 1524 meters)
<i>Grindelia howellii</i> Howell's gum-weed	Middle Rocky Mountains	Vernally moist, lightly disturbed soil adjacent to ponds and marshes, as well as similar human-created habitats, such as roadsides and grazed pastures. 3320 - 5960 feet (1012 - 1817 meters)

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NAME	Vegetation Province	HABITAT
<i>Haplopappus carthamoides</i> var. <i>subsquarrosus</i> Beartooth large-flowered goldenweed	Temperate Desert	Grassland and sagebrush steppe on sandy calcareous soils in the foothills and montane zones. 5520 - 7200 feet (1682 - 2195 meters)
<i>Howellia aquatilis</i> water howellia	Northern Rocky Mountains	Small, vernal, freshwater glacial ponds and oxbow sloughs in the valley zone. 3100 - 4425 feet (945 - 1349 meters)
<i>Idahoia scapigera</i> scalepod	Middle Rocky Mountains	Vernally moist, open soil on rock ledges in the lower montane zone. 4600 - 4600 feet (1402 - 1402 meters)
<i>Kobresia simpliciuscula</i> scalepod	Northern, Middle and Yellowstone Plateau	Moist tundra in the alpine zone. 4570 - 9000 feet (1393 - 2743 meters)
<i>Leptodactylon caespitosum</i> Leptodactylon	Temperate Desert	Dry, barren hills, in rocky soils or in crevices of outcrops in the valley zone. 4350 - 5100 feet (1326 - 1554 meters)
<i>Lesquerella carinata</i> var. <i>languida</i> garnet bladderpod	Middle Rocky Mountains	Gravelly, calcareous grassland slopes in the foothills zone. 4250 - 5600 feet (1295 - 1707 meters)
<i>Lesquerella lesicii</i> Lesica's bladderpod	Temperate Desert	Gravelly, limestone-derived soil of open ridges and slopes among Douglas-fir and mountain mahogany woodlands in the montane zone. 5300 - 7600 feet (1615 - 2316 meters)
<i>Lewisia pygmaea</i> var. <i>nevadensis</i> Nevada bitterroot	Middle Rocky Mountains	Vernally moist, shallow soil of meadows and open forest in the montane and subalpine zones. 5040 - 7000 feet (1536 - 2134 meters)
<i>Liparis loeselii</i> Loesel's twayblade	Northern Rocky Mountains	Wet, organic soils of calcareous fens in the valley and montane zones. 3100 - 3300 feet (945 - 1006 meters)
<i>Lobelia spicata</i> pale-spiked lobelia	Great Plains	Moist meadows on the plains. 1930 - 2005 feet (588 - 611 meters)
<i>Lomatium attenuatum</i> taper-tip desert-parsley	Middle Rocky Mountains	Gravelly, limestone-derived slopes of sparsely vegetated sagebrush steppe or woodlands with Rocky Mountain juniper, Douglas fir, limber pine, or mountain mahogany in the foothill and montane zones. 5780 - 8900 feet (1762 - 2713 meters)
<i>Lomatium nuttallii</i> Nuttall desert-parsley	Great Plains	Dry, rocky slopes of open pine woodland in the plains. 3600 feet (1097 meters)
<i>Maianthemum canadense</i> var. <i>interius</i> wild lily-of-the-valley	Great Plains	Moist, humic soil in riparian forest on the plains. 3430 feet (1045 meters)
<i>Mentzelia nuda</i> bractless mentzelia	Great Plains	Sandy or gravelly soil of open hills and roadsides on the plains. 2010 - 2500 feet (613 - 762 meters)
<i>Mimulus nanus</i> dwarf purple monkeyflower	Middle Rocky Mountains	Dry, open, often gravelly or sandy slopes in the valleys and foothills. 4340 - 6700 feet (1323 - 2042 meters)
<i>Nyphaea tetragona</i> spp. <i>leibergii</i> pygmy water-lily	Northern Rocky Mountains	Quiet, fresh water of lakes and backwater sloughs in the valleys. 2890 - 3100 feet (881 - 945 meters)
<i>Ophioglossum pusillum</i> adder's tongue	Northern Rocky Mountains	Wet meadows, margins of fens, and gravelly moist soil in the valley and montane zones. 2920 - 4450 feet (890 - 1356 meters)
<i>Penstemon lemhiensis</i> Lemhi beardtounge	Middle Rocky Mountains	Open sagebrush and woodland slopes in foothill to lower subalpine zones. 4150 - 8200 feet (1265 - 2499 meters)
<i>Potamogeton obtusifolius</i> blunt-leaved pondweed	Northern Rocky Mountains	Shallow water of lakes, ponds, and sloughs in the valley, foothill, and montane zones. 3080 - 5200 feet (939 - 1585 meters)
<i>Primula incana</i> mealy primrose	Middle Rocky Mountains and Great Plains	Alkaline meadows in valley and foothill zones, and plains. 2044 - 7000 feet (623 - 2134 meters)
<i>Psilocarphus brevissimus</i> var. <i>brevissimus</i> dwarf woolly-heads	Northern Rocky Mountains and Great Plains	Drying mud of ponds and other vernal wet soil in the valleys and on the plains. 2300 - 3400 feet (701 - 1036 meters)
<i>Quercus macrocarpa</i> bur oak	Great Plains	Low, shale-derived hills on the plains. 3435 - 3650 feet (1047 - 1113 meters)
<i>Salix serissima</i> autumn willow	Northern and Middle Rocky Mountains	Fens and swamps in the valley and foothill zones. 4200 - 5000 feet (1280 - 1524 meters)
<i>Scheuchzeria palustris</i> pod-grass	Northern Rocky Mountains	Wet, organic soil of fens in the valley and montane zones, usually with SPHAGNUM moss. 2950 - 6550 feet (899 - 1996 meters)
<i>Scirpus cespitosus</i> tufted club-rush	Northern Rocky Mountains	Wet meadows and sphagnum bogs in the montane to alpine zones. 3200 - 9200 feet (975 - 2804 meters)

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NAME	Vegetation Province	HABITAT
<i>Scirpus subterminalis</i> water bullrush	Northern and Middle Rocky Mountains	Open water and boggy margins of ponds, lakes, and sloughs at 0.1-3 m depth in the valley, foothill, and montane zones. 2890 - 6000 feet (881 - 1829 meters)
<i>Solidago ptarmicoides</i> prairie aster	Great Plains	Open, dry grasslands, often on sandy soil or limestone on the plains. 2020 - 3550 feet (616 - 1082 meters)
<i>Solidago sparsiflora</i> few-flowered goldenrod	Great Plains	Sandy soil of grasslands or open woodlands on the plains. 3220 feet (981 meters)
<i>Sphaeromeria argentea</i> chicken sage	Great Plains	Shallow limestone-derived soil in sagebrush steppe in the valley and foothill zones. 5900 - 7200 feet (1798 - 2195 meters)
<i>Spiranthes diluvialis</i> Ute ladies tresses	Middle Rocky Mountains	Meandered wetlands and swales in broad, open valleys, at margins with calcareous carbonate accumulation. 4050 - 5080 feet (1234 - 1548 meters)
<i>Sporobolus asper</i> longleaf dropseed	Great Plains	Open forests and grasslands on the plains. 2470 - 3500 feet (753 - 1067 meters)
<i>Sporobolus neglectus</i> small dropseed	Middle Rocky Mountains and Great Plains	Grasslands in the valleys and on the plains; both natural and disturbed habitats are represented in MT. 2500 - 4900 feet (762 - 1494 meters)
<i>Stephanomeria spinosa</i> spiny skeletonweed	Middle Rocky Mountains	Dry grasslands in the valley and foothill zones. 4920 - 6660 feet (1500 - 2030 meters)
<i>Sullivantia hapemanii</i> var. <i>hapemanii</i> Wyoming sullivantia	Temperate Desert	Calcareous springs and seeps on moist canyon walls, streambank outcrops, and in close proximity to waterfalls. 3700 - 5800 feet (1128 - 1768 meters)
<i>Thelypodium paniculatum</i> Northwestern thelypody	Middle Rocky Mountains	Wet, often alkaline meadows in the valley to montane zones. 6760 - 6800 feet (2060 - 2073 meters)
<i>Thlaspi parviflorum</i> small-flowered pennycress	Middle and Yellowstone Plateau	Moist to dry meadows and limestone cliffs in the montane to alpine zones. 6880 - 10100 feet (2097 - 3078 meters)
<i>Trifolium gymnocarpon</i> hollyleaf clover	Middle Rocky Mountains	Open woods and slopes, usually in dry soil of sagebrush steppe to ponderosa pine forest in the foothills to lower montane zone. 4800 - 6300 feet (1463 - 1920 meters)

TABLE
RARE NON-VASCULAR PLANT SPECIES OCCURRING ON STATE SCHOOL TRUST LAND

NAME	Vegetation Province	HABITAT
<i>Aloina brevirostris</i> short-beaked rigid screw moss	Northern Rocky Mountains	Likely in moist conifer forests
<i>Amblyodon dealbatus</i>	Northern Rocky Mountains	Likely in moist conifer forests
<i>Collema curtisporum</i>	Northern Rocky Mountains	Moist riparian forests, almost always on <i>Populus trichocarpa</i>